

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A network infrastructure integrated system comprising:

a telephone line network to which a first plurality of home information machines are respectively each connected via a PNA modem;

a power line network to which a second plurality of home information machines are respectively each connected via a PNA modem having a coupler;

a gateway system connected with one of the telephone line network and the power line network for converting communication protocols of the telephone line network or power line network and an external network and transferring data signals between the telephone line network or power line network and the external network; and

a network bridge connected between the telephone line network and the power line network for enabling the first and second pluralities of home information machines to communicate data signals with each other between the telephone line network and the power line network;

wherein the network bridge includes an input protection means for protecting internal circuitry thereof and removing unwanted electric components of the data signal flowing between the telephone line network and the power line network, and matching means connected to the input means for matching the data signal to an

impedance value of the PNA modem between the telephone line network and the power line network.

2. (Currently Amended) The system according to claim 1, wherein the ~~telephone line network includes phone line networking alliance (PNA) modems, the power line network includes PNA modems each having a coupler for connecting to a power line, and the gateway system includes PNA modems.~~

3. (Previously Presented) The system according to claim 1, wherein the first plurality of home information machines connected to the telephone line network each include a phone line networking alliance (PNA) modem, the second plurality of Home Information Machines connected to the power line network each include a PNA modem having a coupler for connecting to a power line, and the gateway system includes a PNA modem.

4. (Previously Presented) The system according to claim 1, wherein the telephone line network includes at least one phone line networking alliance (PNA) modem, the power line network includes at least one PNA modem having a coupler for connecting to a power line, and the gateway system also includes a PNA modem having a coupler for connecting to a power line.

5. (Previously Presented) The system according to claim 1, wherein the first plurality of home information machines connected to the telephone line each include a phone line networking alliance (PNA) modem, the second plurality of Home Information Machines connected to the power line network each include a PNA modem having a coupler for connecting to a power line, and the gateway system also includes a PNA modem having a coupler for connecting to a power line.

6. (Currently Amended) The system according to claim 1, wherein the network bridge further includes ~~an input protection means for protecting internal circuitry thereof and removing unwanted the electric components of the data signal flowing between the telephone line network and the power line network, a matching means connected to the input means and matching impedance of the data signal to an impedance value of the phone line networking alliance (PNA) modems, and an output means connected to the matching means for coupling the data signals between the telephone line network and power line network~~ and filtering the data signals.

7. (Original) The system according to claim 6, wherein the input means includes a plug against inputting/outputting the data signal, a protection means for protecting an overvoltage and a surge voltage, and a blocking means connected to the protection means and blocking DC or AC components.

8. (Previously Presented) The system according to claim 7, wherein the protection means includes a line filter for preventing admission of noise generated from the home information machines.

9. (Original) The system according to claim 6, wherein a load impedance resistance value in the matching means is $10k\Omega$.

10. (Original) The system according to claim 6, wherein the output means includes an isolation and coupling means for isolating the telephone line network and the power line network from each other, a filtering means for band-pass filtering the data signal, and a socket for connecting the telephone line network or the power line network.

11. (Previously Presented) The system according to claim 10, wherein the isolation and coupling means has a transformer in which the telephone line network side and on the power line network side are connected to a respective coil winding having a same number with each other.

12. (Previously Presented) The system according to claim 10, wherein the filtering means is a band-pass filter which passes only signals in a range of 4.25MHz~9.75MHz.

13. (Previously Presented) The system according to claim 1, wherein the telephone line network and the power line network are integrated without using a router.